Claim Rejections 35 U.S.C. §103

Claims 1, 6, 8, 12 and 21 are rejected, under 35 U.S.C. §103(a), as being allegedly unpatentable over Chisholm et al. (U.S. 5,968,143) (hereinafter Chisholm) in view of Wood et al. (U.S. 6,915,363) (hereinafter Wood) and further yet in view of Davis et al. (U.S. 6,298,407) (hereinafter Davis) and further yet in view of Winkler et al. (U.S. 2004/0024948) (hereinafter Winkler). Applicants respectfully traverse in view of the following.

Independent Claim 1 recites a bypass register, as claimed. The term bypass refers to the manner in which the instant application bypasses the prior art ATA step of writing to a set of registers in the disk controller to implement a disk transaction (see instant application, page 17, lines 12-14).

In contrast, Chisholm discloses a local memory coupled to a host command address register (see Chisholm, Figure 3, elements 203 and 311 and col. 4, lines 53-54 and col. 5, lines 26-27). Chisholm discloses that command block addresses as well as a command transfer start signal are written to the host command address register (see Chisholm, col. 5, lines 23-27 and 30-34). A host command block is transferred from the host command address register to the local memory once the host address is written into the host command address register (see Chisholm, col. 5, lines 39-51).

Accordingly, Chisholm discloses a two step storing process, storing command block addresses in the host command address register and thereafter transferring a command block address to the local memory. Thus, Chisholm fails to teach or suggest bypassing ATA step of writing to a set of registers in the disk controller to implement a disk transaction. As such, Chisholm fails to teach or suggest a bypass register in the claimed fashion.

Independent Claim 1 further recites a chain memory for buffering a plurality of CPBs to extend a number of disk transactions scheduled for execution by the disk I/O engine, as claimed.

In contrast, Chisholm discloses storing a command block address and a command transfer signal, which are associated with a host command block, in the host command address register, as presented above. Moreover, Chisholm discloses transferring a command block address to the local memory once writing to the host command register is complete. Chisholm fails to teach or suggest that the command blocks, as disclosed by Chisholm, are CPBs, as claimed. As such, Chisholm fails to teach or suggest a chain memory for buffering a plurality of CPBs, as claimed.

Moreover, Chisholm discloses that as a result of the storing method described above, the local processing unit is not interrupted to perform the command block transfer (see Chisholm, col. 5, lines 51-53). Chisholm further discloses that the host processing unit does not wait for the local processing unit

to complete the command block transfer, thereby relieving the overhead associated with transfer of command blocks (see Chisholm, col. 5, lines 53-57).

Accordingly, Chisholm discloses reducing the overhead associated with transfer of command blocks using a two step storing process. As such, Chisholm fails to teach or suggest a chain memory for buffering a plurality of CPBs <u>to extend a number of disk transactions scheduled for execution by the disk I/O engine</u>, as claimed.

The rejection admits that Chisholm fails to teach that the disk I/O engine is configured to cause a start up of a disk drive upon receiving a disk start up command from the processor, as claimed. The rejection relies on Wood. Applicants respectfully traverse in view of the following.

Independent Claim 1 recites that the disk I/O engine is configured to cause a start up of the disk drive upon receiving a disk start up command from the processor and before completion of the start up, as claimed.

In contrast, Wood discloses that the start command includes a signal that indicates, instructs, allows or initiates predetermined OOB signals to disc drives (see Wood, col. 6, lines 45-47). Wood discloses that the start command initiates predetermined OOB signals (see Wood, col. 3, lines 22-25). Wood discloses that a data storage device spins-up its spindle motor in response to the successful communication of predetermined OOB signal with its associated port controller

(see Wood, col. 3, lines 15-18). Wood, however, fails to disclose whether the initiation is before the completion of the startup. As such, Wood fails to teach or suggest that the disk I/O engine is configured to cause a start up of the disk drive upon receiving a disk start up command from the processor _and before completion of the start up_, as claimed.

The rejection admits that Chisholm in view of Wood fails to teach that the start up command is configured to hide a start latency of the disk drive, as claimed. The rejection relies on Davis. Applicants respectfully traverse in view of the following.

Davis discloses that bridges typically implement a number of data queues to hide the delay associated with requesting and obtaining access to the target bus for obtaining or forwarding the data (see Davis, col. 1 line 66 to col. 2 line 1). _Bridges used to implement data queues_ in order to hide the delay, as disclosed by Davis, differs from the _start up command_ configured to hide a start latency of the disk drive, as claimed. Moreover, hiding delays associated with a target bus, as disclosed by Davis, differs from the start up command configured to hide a latency _of the disk drive_, as claimed.

Applicants respectfully submit that Winkler fails to remedy the shortcomings of Chisholm in view of Wood and further yet in view of Davis, as discussed above. As such, Chisholm alone or in combination with Wood and further yet in view of Davis and additionally in view of Winkler fails to render

independent Claim 1 obvious, under 35 U.S.C. §103(a). Independent Claims 8 and 21 recite limitations similar to that of independent Claim 1 and are patentable for similar reasons. Depend claims are patentable by virtue of their dependency.

As such, allowance of Claims 1, 6, 8, 12 and 21 is earnestly solicited.

For the above reasons, Applicants request reconsideration and withdrawal of the rejections under 35 U.S.C. §103.

CONCLUSION

Applicant respectfully asserts that all remaining claims are in condition for allowance and Applicant earnestly solicits such action from the Examiner. The Examiner is urged to contact Applicant's undersigned representative if the Examiner believes such action would expedite resolution of the present Application.

Please charge any additional fees or apply any credits to our PTO deposit account number: 50-4160.

Respectfully submitted,
MURABITO, HAO & BARNES

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